

HOW DEVELOPING ELECTRONIC PORTFOLIOS IMPACT PRE-SERVICE TEACHERS' SELF DIRECTEDNESS AND COMPUTER TECHNOLOGY SKILLS

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Introduction

In order to have a better career opportunity or get a promotion, more people including both traditional and non-traditional students, enroll in colleges and universities. Even people with backgrounds outside of education are returning to school to become teachers. Thus, because of these diverse learners, teacher education programs cannot assess these future teachers' abilities by simply looking at their academic performance (i.e., grades). Most teacher education programs use portfolios to assess preservice teachers' performance.

The teacher education program at the University of Missouri, St. Louis (UMSL) has been using both academic grades and professional portfolio development to assess the preservice teachers' learning because the contents and the teaching methods are both important to a teacher's performance (Sherman, Personal Communication). This achieves more valid or additional measures of growth. There are two types of portfolios: paper-based and electronic-based. Due to the increasing popularity of computer technology, electronic portfolios (E-portfolios) are becoming a major developmental movement in today's teacher education programs' assessment tools.

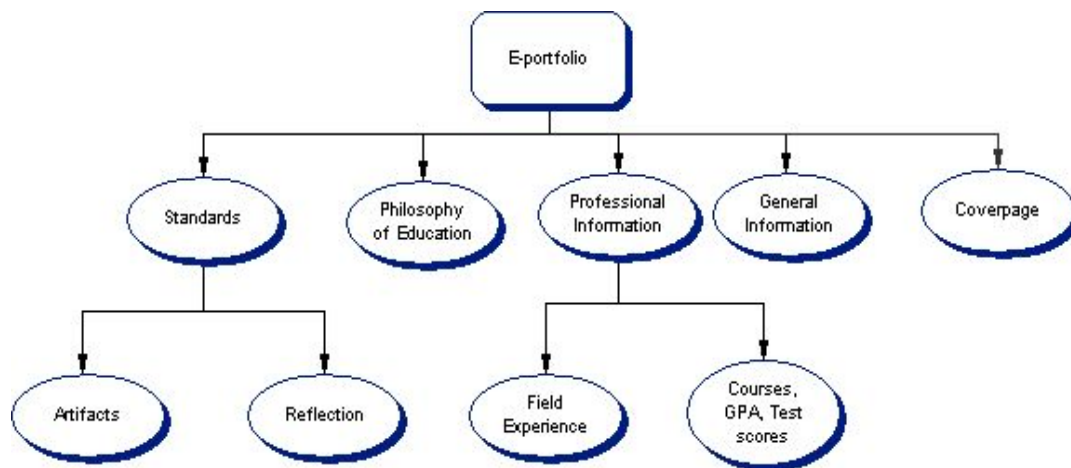


Figure 1.1 Certificate E-portfolio requirements at UMSL

An E-portfolio can be used for assessment of students' assignments and required artifacts. It allows preservice teachers to get feedback from their instructors and peers in a timely and efficient manner. Among other things, E-portfolios give users a sense of ownership, support collaboration and facilitate ongoing self-evaluation. This ability to change causes teachers to reflect more on their own work and thus engage in ongoing self-improvement.

The purpose of this study is to discover the impact E-portfolio development has on self-directed learning (SDL) and computer technology skills (CTS). The research is framed by the concepts of self-directed learning theory and incidental learning as they occur in the use and development of E-portfolios.

Literature Review

An electronic portfolio can be used for formative and summative assessment of students' assignments and required artifacts such as lesson plans, reflective journals, or projects. Improvement is the goal of formative and summative assessment. Many E-portfolios allow preservice teachers to create a feedback section and invite their instructors and peers to respond to artifacts and ultimately the E-portfolio. Preservice teachers can use those responses to easily make modifications to their work. E-portfolios give users a sense of ownership, support collaboration, facilitate on-going self-evaluation, supply easy access of artifacts, and provide opportunities to revise and improve on earlier learning (Song, Scordias, Huang, & Hoagland, 2004, p. 2943). This ability to change enables teachers to reflect more on their own work and thus engage in on-going self-improvement. With the on-going nature of the E-portfolio, students develop their portfolio artifacts little by little over the extended time. They are more likely to reflect on their projects from time to time. The information in the E-portfolios is stored on a computer hard drive, floppy disc, CD or other media and takes up very little physical space. Students use technology to collect and organize the documents and use multimedia artifacts in order to present a wide range of evidence of acquisition of appropriate standards (Barrett, 2000; Bergman, N.D.).

Good teachers have standards in mind when they make their lesson plans. A standard represents a specific idea of what the teacher expects a student to recall, replicate, manipulate, understand, or demonstrate at some point down the road, and how the teacher will know how close a student has come to meeting that standard. There is a new emphasis on standards over the last decade at the national, state, and local levels (NCATE, 1995).

Preservice teachers can create and maintain as many E-portfolios as they wish by using an E-portfolio program. They may wish to revise a portfolio they made earlier for academic purposes or to present themselves effectively to prospective employers, and later for re-certification or promotion purposes. They can use the E-portfolio program to track and reflect upon their growth as a professional teacher.

The assessment movement has reached a high peak. In general, the higher education has focus on accountability or improvement of the assessment. There are many different formats of assessment: tests, exams, projects, presentations, and portfolios. Most of educators consider assessment should be about improving students' learning and determining the quality of learning produced. In another word, learning still matters the most.

What makes self-directed learning different from other learning styles is that the learners set their goals, the ways to achieve their goals, and the evaluation (Caffarella, 1993). Self-directedness depends on who is in charge, who decides what should be learned, who should learn it, what methods and resources should be used, and how the success of the effort should be measured.

While preservice teachers focus on developing their E-portfolios, they incidentally and subsequently learn new computer technology skills. Informal and incidental learning takes place wherever people have the need, motivation, and opportunity for learning. Marsick and Volpe (1999) concluded that incidental learning can be characterized as: integrated with daily routines; triggered by an internal or external jolt; not highly conscious; influenced by chance; an inductive process of reflection and action; and linked to learning of others. Incidental learning is different from other learning styles because it is learner-centered focus and the lessons that can be learned from life experience (Marsick & Watkins, 2001).

Methods

Since the purpose of the study is to investigate how electronic portfolios (E-portfolios) impact preservice teachers' self-directed learning (SDL) and computer technology skills (CTS). I use a case study method for this research. This method allows me to gather data in depth. The information I obtain through these case studies will help me have a better understanding of the relationship between E-portfolios, SDL, and CTS.

The participants will be individuals who use E-portfolios and are enrolled in a teacher education program at UMSL. Data will be collected using a variety of sources to ensure that the same phenomena are explored from multiple perspectives, thus enhancing the reliability of the interpretation of the data collected. The principal data collection techniques used will be questionnaires (Guglielmino's Self-Directed Learning Readiness Scale (SDLRS) and a Computer Technology Skills (CTS) inventory, one-on-one interviews, observations, and archived data from E-portfolios.

Data analysis will proceed on two levels: individual case analysis and comparison of cases analysis. Data analysis will be ongoing, and I will audio record each case's interview and write summary memos to myself as each observation and take detailed notes while analyzing documents. These memos help me shape data collection as I perceived themes and patterns within and across cases. I will be able to adjust the direction of the study and determine information gaps. Additional analytic memos will be done after all of the data are available.

Conclusion and Implications

It is anticipated that preservice teacher's CTS and SDL will be enhanced as a result of developing and using E-portfolios. Knowles (1980) hypothesized that adult learning could not follow the principles of traditional pedagogy in which teachers are responsible for making decisions about what will be learned, how it will be learned and when it will be learned. Educators should not ignore the increasing adult student population in teacher education. Those adult students bring their current life roles with them to college and then assume the additional role of students. They also need to adopt today's technology to pursue the degree. As adult educators seek to enhance the knowledge regarding adult education participation, they cannot overlook the impact of an electronic portfolio on those non-traditional preservice teachers.

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